

# You Can Build This Motor-Toter



## YOUR HEAVIER MOTOR CAN BE USED TO OPERATE

Ensilage cutter • Grain elevators (outside and inside) • Large emery wheel • Wood saw • Feed mixer (large) • Corn sheller (2-hole) • Baled-hay elevator • Hay hoist • Shop line shaft • Feed grinder (Burr or hammer mill types) • Hay baler

**Y**OUR larger motor can be a jack-of-many-trades if you can move it from place to place and use it properly.

Most larger motors cannot be carried by hand. You can, however, make a cart, using only a small amount of material, that will tote your heavier motor where you need it.

A cart will enable your heavier motor to work for you on lighter jobs. Larger motors *work efficiently* on tasks requiring only a fraction of their power. A motor never uses more than *just enough* current to run itself, plus *just enough* current to operate the machine it is driving.

While it is true that a motor will not be quite as efficient on tasks below its horse-

power capacity as on the heavier tasks, the slight increase in current costs usually will not justify purchase of a variety of motors to do a variety of tasks. Anyway, such a variety is not available now.

## KEEP YOUR LARGER MOTOR ON THE MOVE

Select one motor that will do the heaviest task you need done. On most farms this will be a 5 horsepower, single-phase, 1,750 r. p. m. motor. Use this motor to do all the work requiring more than three-quarter horsepower, up to and including 5 horsepower.

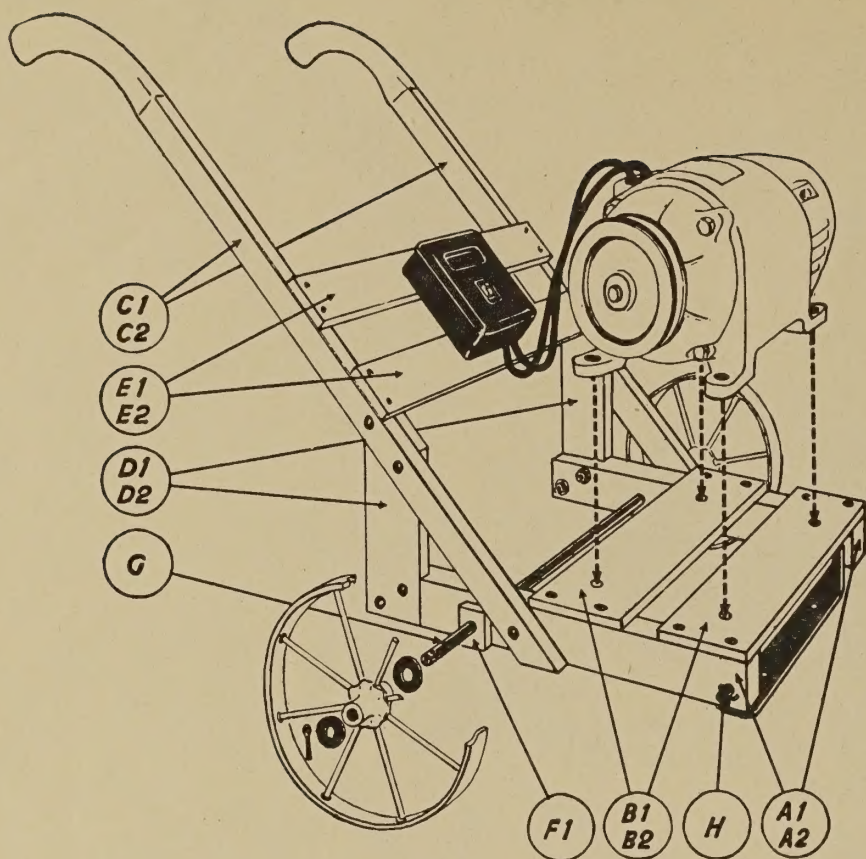
You can do so by building in your spare time a simple, easy-to-make motor cart to move your motor from place to place. The drawing and bill of materials on the opposite side of this sheet will enable you to build a motor cart. This cart is so designed that it can be made from wood, and pieces of steel and iron from unused machines on your farm.

**Yoke.**—The yoke, attached to the front of the cart, provides a quick and easy way to fasten the cart frame rigidly in position to permit proper belt alignment. It also incorporates the principle of using the motor's weight to maintain belt tension. The yoke pivots about the half-inch pipe, permitting the motor and cart to be raised or lowered as desired for adjusting belt tension.

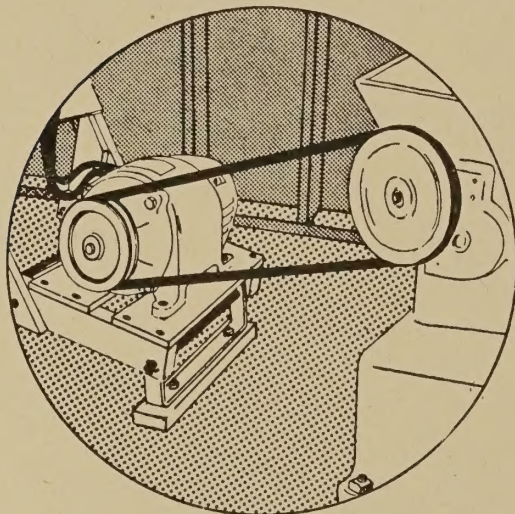
Holes in the yoke fit over properly spaced bolts permanently imbedded in the floor next to the machine to be driven. The bolts may be either sunk in a concrete floor, or thrust upward through a two-by-four nailed to a wooden floor. Put the yoke in place over the tie bolts and use wing or thumb nuts to fasten it quickly and easily.

**For Frame Mounting.**—In some cases it may be desirable to mount the motor directly on the frame of the driven machine,





*This is the way the yoke is set on the floor, and attachment made to the machine to be driven.*



as with an ensilage cutter. When this is to be done, drill holes corresponding to the yoke bolt holes in the frame at the proper height. Bolts may then be inserted clamping both yoke and frame together.

**How To Mount Motor.**—To put the motor in position to drive the machine, push down on the handles of the cart until the yoke is at proper height to slip easily onto the bolts. Fasten the yoke, raise the handle

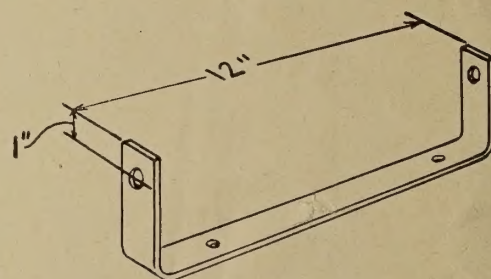
until the belt or belts can be slipped over the motor pulleys. This permits the motor and cart to pivot around the yoke shaft, using the weight of the motor to maintain belt tension. By trial and error in mounting the yoke to the frame, you will find the proper tension. Too great tension will wear out both machine and motor bearings and the belt. On the other hand, the belt must be tight enough to prevent slipping.

## MATERIALS

Key No. of No. Pieces	Items	Dimensions	Use
A1-A2	2 Lumber	2"x4"x26"	Side rails
B1-B2	2 Lumber	1"x6"x16"	Base for motor
C1-C2	2 Plow handles	60" long	Handles
D1-D2	2 Lumber	1"x4"x18"	Brace for handles
E1-E2	2 Lumber	1"x4"x18"	Handle ties
F1-F2	2 Lumber	1"x2"x3"	Spacer between wheels and side rails
G	1 Pipe	$\frac{3}{2}$ "x25"	Axle
H	1 Pipe	$\frac{3}{2}$ "x18"	Yoke axle
	4 Cotter pins	$\frac{3}{16}$ "x1 $\frac{3}{4}$ "	Axle ends and hinge pin
	4 Flat washers	$\frac{3}{4}$ "	Axle
	12 Carriage bolts	$\frac{3}{8}$ "x5 $\frac{1}{2}$ "	Fasten 1"x6" to side rails
	14 Carriage bolts	$\frac{3}{8}$ "x2 $\frac{1}{4}$ "	Fasten handle to brace
	6 Carriage bolts	$\frac{3}{8}$ "x3 $\frac{1}{2}$ "	Fasten handle to side rails
	4 Carriage bolts	$\frac{1}{2}$ "x2 $\frac{1}{4}$ "	Fasten motor
	32 Flat washers	$\frac{7}{16}$ "	Fasten motor
	2 Wood or steel wheels	2" tread, $\frac{3}{4}$ " bore, 12" diameter or larger	
	1 Bar iron	2"x $\frac{3}{8}$ "x20"	Yoke

### Some Suggestions for Material Sources

Handles may be obtained from a worn-out walking plow; the wheels from the tongue trucks of a horse-drawn disc and the yoke may be made from any piece of  $\frac{3}{8}$ " x 2" bar iron. The frame can be made of 2" x 4" lumber.



*Your blacksmith may be able to provide—and shape—bar iron for the yoke.*